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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,997	06/26/2001	Tsukasa Yagi	15162/03790	9619
24367	7590	05/02/2005	EXAMINER	
SIDLEY AUSTIN BROWN & WOOD LLP			NGUYEN, HOAN C	
717 NORTH HARWOOD			ART UNIT	
SUITE 3400			PAPER NUMBER	
DALLAS, TX 75201			2871	

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,997

Applicant(s)

YAGI ET AL.

Examiner

HOAN C. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 6-26 and 30-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 27-29 and 44-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/27/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Jan. 24, 2005 has been entered.

Claims 6-26 and 30-43 are withdrawn from consideration. Therefore, ONLY claims 1-5, 27-29 and 44-47 are in the elected species.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5 and 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamagishi (US4920409A) in view of Tsuboyama et al. (US5734367).

In regard to claims 1 and 47, Yamagishi discloses (Fig. 1) all features in claims 1-3 and 47 except for inversely arrangement of the scanning and signal lines. **Here, scanning electrodes are interchanged with signal electrodes in reference of**

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Yamagishi for vertical and horizontal choices. In another words, scanning electrodes can be renamed as signal electrodes and signal electrodes can be renamed as scanning electrodes. The renamed electrodes will not change any property of display. [as discussed in Office Action mailed on 9/23/04 and 4/20/2004].

Therefore, a liquid crystal display apparatus comprising:

- a liquid crystal layer comprising liquid crystal and having a plurality of pixels, where scanning electrodes cross the signal electrodes, arranged in a matrix composed of rows and columns;
- a number of first scanning electrodes Y1-Y7 aligned in a first direction at a first pitch (between Y_i and Y_j , where i and $j = 1-7$), the number of the first scanning electrodes corresponding to a number of rows and each of the first scanning electrodes extending in a second direction substantially orthogonal to the first direction (y-direction);
- a plurality of signal electrodes X1-X3 facing the first scanning electrodes with the liquid crystal layer sandwiched between the signal electrodes and the first scanning electrodes, the signal electrodes being aligned in the second direction (X-direction) at a second pitch (between X_m and X_n , where n and $m = 1-3$) wider than the first pitch and each of the signal electrodes extending in the first direction.
- a scanning electrode driver connected to the first scanning electrodes;
- a signal electrode driver connected to the signal electrode;

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Claim 2:

- pixels are formed at intersections of the first scanning electrodes and the signal electrodes; and each of the pixels is a rectangle of which shorter sides are parallel to the first direction and of which longer sides are parallel to the second direction.

Claim 3:

- a width of each of the first scanning electrodes defines a length of the shorter sides of each of the pixels; and a width of each of the signal electrodes defines a length of the longer sides of each of the pixels.

Claim 4-5:

- the first pitch is $1/n$ of the second pitch, wherein n is 2.

Claim 44:

- all of pixels can display a same color for reducing cost due to less expensive for one color display than for three color display.

However, Yamagishi fails to disclose a liquid crystal display apparatus with a controller for controlling the scanning electrode driver and the scanning electrode driver such that the scanning electrode driver selects the first scanning electrodes in a specified order by outputting a selective signal to each of the first scanning electrodes and the signal electrode driver outputs signals to the plurality of signal electrodes in accordance with image data to display the pixels on the row of the matrix corresponding to the selected scanning electrode (claims 1 and 45-47).

Tsuboyama et al. teach (Fig. 1, col. 3 lines 28-63) a liquid crystal display apparatus with a controller for controlling the scanning electrode driver and the scanning electrode driver such that the scanning electrode driver selects the first scanning electrodes in a specified order by outputting a selective signal to each of the first scanning electrodes and the signal electrode driver outputs signals to the plurality of signal electrodes in accordance with image data to display the pixels on the row of the matrix corresponding to the selected scanning electrode for providing good image with less flickering.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to rearrange the scanning and signal lines for designed choice of vertical and horizontal images, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70; wherein a controller for controlling the scanning electrode driver and the scanning electrode driver such that the scanning electrode driver selects the first scanning electrodes in a specified order by outputting a selective signal to each of the first scanning electrodes and the signal electrode driver outputs signals to the plurality of signal electrodes in accordance with image data to display the pixels on the row of the matrix corresponding to the selected scanning electrode for providing good image with less flickering, thereby making the brightness change unnoticeable to human eyes as taught by Tsuboyama et al. (col. 3 lines 57-63).

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2. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamagishi (US4920409A) in view of Tsuboyama et al. (US5734367) as applied to claims 1-5 and 44-47 above in further view of Masazumi (US6414669B1).

Yamagishi fail to disclose features claims 27-29.

Masazumi teaches a liquid crystal display apparatus comprising the liquid crystal having a memory effect (claim 27) wherein the liquid crystal exhibits a cholesteric phase (claim 28) and comprises a nematic liquid crystal compound and a chiral agent (claim 29) retaining the display states of the liquid crystals if the deselect signal is held below the prescribed threshold voltage.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal display apparatus as Yamagishi disclosed with the liquid crystal having a memory effect (claim 27) wherein the liquid crystal exhibits a cholesteric phase (claim 28) and comprises a nematic liquid crystal compound and a chiral agent (claim 29) retaining the display states of the liquid crystals if the deselect signal is held below the prescribed threshold voltage for achieving a further reduction in driving time as taught by Masazumi (col. 2 lines 33-34).

Conclusion

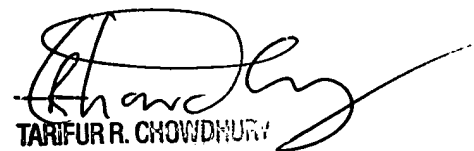
Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H. Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HOAN C. NGUYEN
Examiner
Art Unit 2871

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TARIFUR R. CHOWDHURY
PRIMARY EXAMINER